

EXAMPLE 9

(1) 3.5 g of diallylorthophthalate prepolymer ("Daiso DAP Type K" produced by Daiso Co., Ltd.), 1.5 g of ethylene glycol dimethacrylate ("NK Ester 1G" produced by Shin-Nakamura Chemical Co., Ltd.), 0.15 g of benzil, 0.05 g of Michler's ketone, and 11g of acetone were mixed at an ordinary temperature to prepare a recording material composition comprising these components.

(2) to (4) A photosensitive plate for recording a hologram was produced and a hologram was copied by conducting the same manner as in items (2) to (4) of Example 1.

A copy thus obtained suffered no coloring, and had a high brightness of a diffraction efficiency of about 30% without conducting development and fixing.

The copied hologram maintained a stable image for a long period of 3 months or more, after peeling the protective material. The record was formed only with the refractive index modulation, but not unevenness on the recording layer, and a transparent hologram having substantially no absorption in the visible region was obtained.

EXAMPLE 10

(1) The same procedures as in item (1) of Example 9 were repeated to produce a recording material composition, except that the diallylorthophthalate prepolymer was changed to diallylisophthalate prepolymer ("Daiso ISO-DAP" produced by Daiso Co., Ltd.).

(2) to (4) A photosensitive plate for recording a hologram was produced and a hologram was copied by conducting the same manner as in

items (2) to (4) of Example 1.

A copy thus obtained suffered no coloring, and had a high brightness of a diffraction efficiency of about 30% without conducting development and fixing.

The copied hologram maintained a stable image for a long period of 3 months or more, after peeling the protective material. The record was formed only with the refractive index modulation, but not unevenness on the recording layer, and a transparent hologram having substantially no absorption in the visible region was obtained.

EXAMPLES 11 TO 23

(1) The same procedures as in item (1) of Example 9 were repeated to produce recording material compositions, except that the diallylorthophthalate prepolymer ("Daiso DAP Type K" produced by Daiso Co., Ltd.) was changed to diallylorthophthalate prepolymer ("Daiso DAP Type A" produced by Daiso Co., Ltd.), and the ethylene glycol dimethacrylate was changed to the following.

Triethylene glycol dimethacrylate ("NK Ester 3G" produced by Shin-Nakamura Chemical Co., Ltd.) (Example 11)

1,3-Butanediol dimethacrylate ("NK Ester BG" produced by Shin-Nakamura Chemical Co., Ltd.) (Example 12)

1,6-Hexanediol dimethacrylate ("NK Ester HD" produced by Shin-Nakamura Chemical Co., Ltd.) (Example 13)

Neopentyl glycol dimethacrylate ("NK Ester NPG" produced by Shin-Nakamura Chemical Co., Ltd.) (Example 14)

Tetraethylene glycol diacrylate ("NK Ester A-200" produced by Shin-Nakamura Chemical Co., Ltd.) (Example 15)

Nonaethylene glycol diacrylate ("NK Ester A-400" produced by Shin-Nakamura Chemical Co., Ltd.) (Example 16)

1,6-Hexanediol diacrylate ("NK Ester A-HD" produced by Shin-Nakamura Chemical Co., Ltd.) (Example 17)

Neopentyl glycol diacrylate ("NK Ester A-NPG" produced by Shin-Nakamura Chemical Co., Ltd.) (Example 18)

Trimethylolpropane trimethacrylate ("NK Ester TMPT" produced by Shin-Nakamura Chemical Co., Ltd.) (Example 19)

Trimethylolpropane triacrylate ("NK Ester A-TMPT" produced by Shin-Nakamura Chemical Co., Ltd.) (Example 20)

Tetramethylolmethane tetraacrylate ("NK Ester A-TMMT" produced by Shin-Nakamura Chemical Co., Ltd.) (Example 21)

Dipentaerythritol hexaacrylate ("NK Ester ADP-6" produced by Shin-Nakamura Chemical Co., Ltd.) (Example 22)

9,9-Bis(4-(2-acryloyloxyethoxy)phenyl) fluorene ("BPEFA" produced by Osaka Gas Co., Ltd.) (Example 23)

(2) to (4) Photosensitive plates for recording a hologram were produced and holograms were copied by conducting the same manner as in items (2) to (4) of Example 1.

Copies thus obtained suffered no coloring, and had a high brightness of a diffraction efficiency of about 30% without conducting development and fixing.